

15. (Amended) A cable modem termination system (CMTS), the CMTS capable of detecting faulty cable modems, the CMTS comprising:

an upstream receiver and demodulator capable of receiving an upstream signal;

A3 a Fast Fourier Transform (FFT) engine capable of performing FFT measurements on the upstream signal and storing the FFT measurements; and

a processor for performing computations on the FFT measurements and communicating data, wherein the data relates to noise levels of the upstream signal at predetermined times, wherein the predetermined times correspond to

a time when a cable modem is transmitting data upstream, and

a time when no data is being transmitted upstream.

**In the Abstract:**

Please replace the abstract of the disclosure beginning at page 37, with the following new abstract:

A4 --A media access control (MAC) unit in a CMTS assigns a normal time slot to a cable modem being tested for its upstream transmission quality. An FFT generator or engine operating in conjunction with the CMTS is informed of this normal time slot. A dummy time slot, not assigned to any cable modem, is created and the FFT generator is informed of the dummy time slot. A number of FFT measurements of the upstream channel are generated during the normal time slot and during the dummy time slot. FFT measurements of the upstream spectrum taken during the normal time slot are compared to FFT measurements taken during the dummy time slot. Through this comparison, undesirable noise spurs, if any, can be detected in the upstream spectrum caused by the cable modem being tested.--

**REMARKS**

Claims 1-32 are pending in the application. Claims 3, 13, and 15, and the abstract have been amended to address the issues raised by the Examiner. Favorable reconsideration of the application, as amended, is respectfully requested.